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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,365	12/09/2003	Kenneth Boyd	81044284FGT1838PUS	1364
28549	7590	03/21/2008	EXAMINER	
Dickinson Wright PLLC 38525 Woodward Avenue Suite 2000 Bloomfield Hills, MI 48304			JONES, HUGH M	
			ART UNIT	PAPER NUMBER
			2128	
			MAIL DATE	DELIVERY MODE
			03/21/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/707,365	<b>Applicant(s)</b> BOYD ET AL.	
	<b>Examiner</b> Hugh Jones	<b>Art Unit</b> 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 7-12 and 16-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-12 and 16-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>120903, 012208</u>  | 6) <input type="checkbox"/> Other: _____                          |



### **DETAILED ACTION**

1. Claims 1-3, 7-12, 16-29 of U.S. Application 10/707,365 filed 12/9/2003 are pending.

#### ***Specification***

2. The amendment filed 1/22/2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. Applicants have substantially amended the claims, but have not provided a showing of specific support for the claim limitations. For example, some claims call for a “controller”. However, in so far as the claims are directed to a computer simulation, it is unclear what is being “controlled” other than the simulation itself. Applicant is required to cancel any new matter in the reply to this Office Action or provide a specific showing of support for the claim amendments.

#### ***Claim Interpretation***

3. Applicants have substantially amended the claims, but have not provided a showing of specific support for all claim limitations. This leads to confusion in interpreting the claims. For example, some claims call for a “controller”. However, in so far as the claims are directed to a computer simulation, it is unclear what is being “controlled” other than the simulation itself. The claims are so interpreted.

4. Furthermore, in the interest of compact prosecution, the Examiner makes the following claim interpretations in order to apply prior art to the claims. See *Ex parte Ionescu*, 222 USPQ 537 (Bd. Pat. App. & Inter. 1984).

5. In general, for the reasons provided earlier, the state of the claims in the instant application precludes a limitation-by-limitation assessment of the claimed invention compared to the prior art. The Examiner cannot interpret the meanings of the claims without relying on speculation. See *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962). However, in the interests of compact prosecution, a prior art rejection is applied nevertheless.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

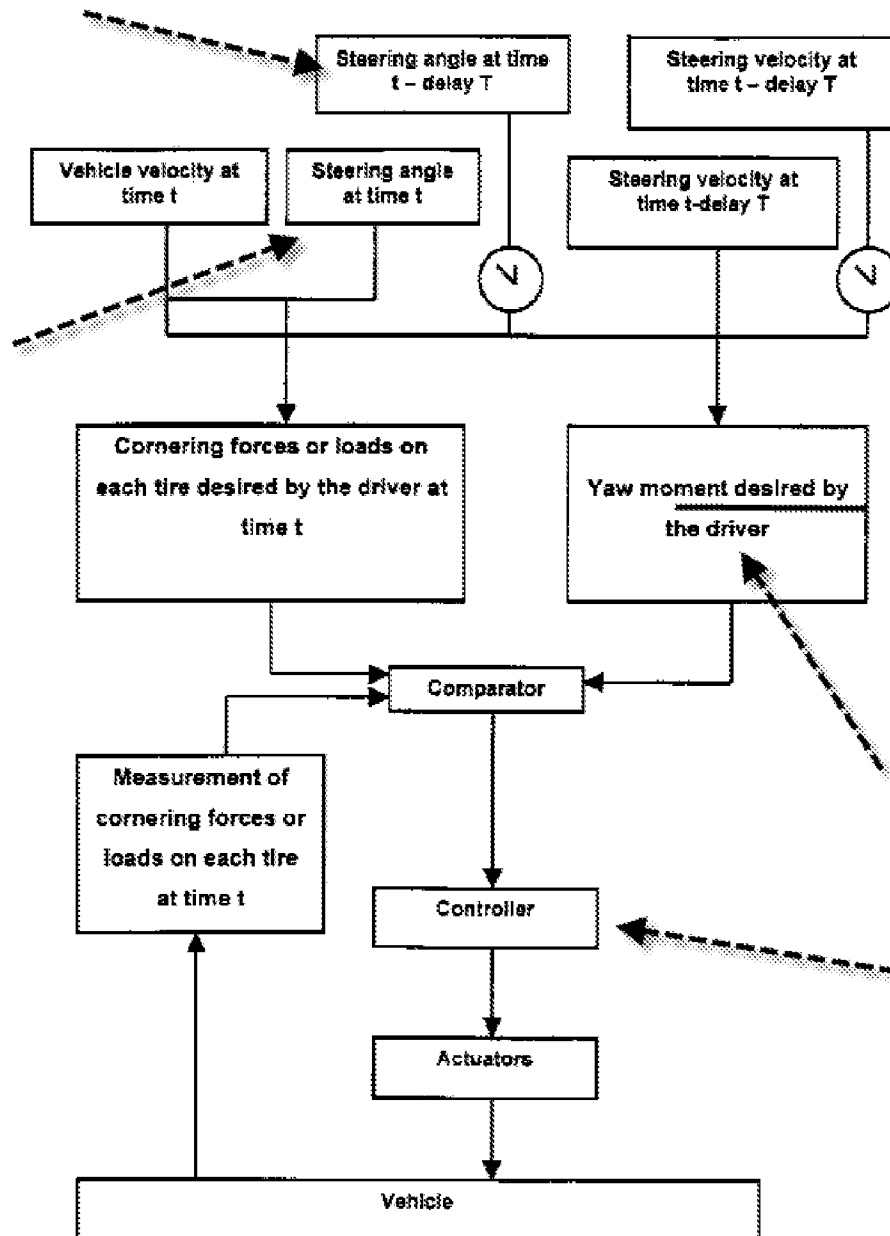
8. Claims 1-3, 7-12, 16-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pallot.

9. Pallot discloses control, modeling and simulation of over- and understeering including initial and subsequent wheel angles, "look ahead" for the driver, and which is continuously updated over time. See fig. 1, and corresponding text (col. 10 to line 3 to

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col. 16, line 33. Simulations are described on col. 16, line 37 to col. 18, line 53. The system in fig. 1 is called a “simulation” system. However, it functionally produces the same results.

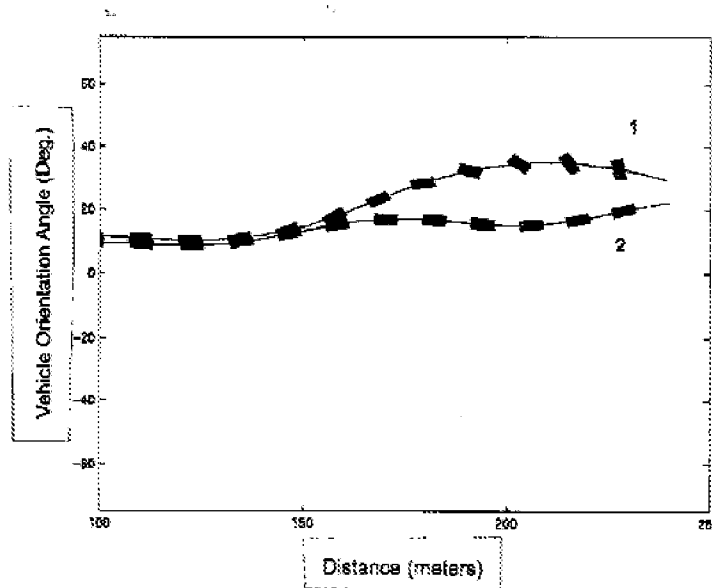
Fig 1



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Note fig. 11:

Figure 11



See col. 16:

- A simulation of the dynamic behavior of a vehicle under typical maneuvers is presented with the aid of the following figures. The simulation model that is used is a four-wheeled model with 7 degrees of freedom, enabling the equilibrium of the vehicle to be expressed in terms of yaw, pitch, roll and rotation of the four wheels. The four simulations presented here relate to a vehicle whose characteristics are those of a Volkswagen Golf car travelling at a speed of 90 km/h.
- In the first simulation (FIGS. 5a-c, 6a-d, and 7a-d), a sinusoidal pulse of frequency 0.5 Hz of increasing amplitude and on a wet surface is plotted as a steering wheel instruction. This maneuver leads to the loss of control of the vehicle. In all the figures illustrating tire cornering forces ( $Y_p$ ), the axle cornering forces ( $Y_F$ ,  $Y_R$ ), the loads ( $Z_p$ ) or yaw moments ( $M_z$ ) the continuous curves, denoted by "A", represent the actual values, while the dotted curves, denoted by "D", represent the values desired by the driver.

Col. 17:

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In the second simulation (FIGS. 8a-c, 9a-d, 10a-d, 11  
and 12) it is shown how a modification of the front/rear  
anti-rolling distribution, controlled as explained above,  
enables the path of the vehicle to be stabilized. The maneuver  
is identical to the previous maneuver (steering command  
in the form of an increasing sinusoidal curve on a wet  
surface at 90 km/h). As soon as excessive yaw forces are  
detected, the anti-rolling device is reinforced at the front of  
the vehicle and is reduced by the same amount at the rear so  
as to make the vehicle stable as quickly as possible and to  
utilize in the best possible way the gripping potential of the  
four tires. The saturation of the cornering forces is better  
controlled and permits smaller phase differences, which  
means that yaw moments are better handled and vehicle  
body changes are more readily identified. To reiterate, in  
each case the reference "A" represents the actual forces  
(continuous curve) and the reference "D" refers to the  
instruction expressed by the proposed method (dotted  
curve).

See Col. 18:

The fourth simulation (FIGS. 16a-c, 17a-d, 18a-d, 19  
and 20) shows how a modification of the front/rear anti-  
rolling distribution, controlled as explained hereinbefore,  
enables the path of the vehicle to be stabilized. In each case  
the reference "A" represents the actual forces (continuous  
line) and the reference "D" refers to the instruction  
expressed by the proposed method (dotted line). The maneuver  
is identical to the preceding maneuver (avoidance  
maneuver on a wet surface at 90 km/hour). As soon as  
excessive yaw forces are detected the anti-roll device is  
reinforced at the front of the vehicle and decreased by the  
same amount at the rear of the vehicle so as to stabilize the  
vehicle as quickly as possible and to utilize in the best  
possible way the gripping potential of the four tires. The  
saturation of the cornering forces is handled more effectively  
and permits smaller phase differences, which means that  
yaw moments are better controlled and movements of the  
vehicle body are more easily identified. By means of the  
anti-roll dynamic distribution the system reduces the delay  
between the driver's instructions to exert the necessary  
forces and the reaction of the vehicle, and avoids the  
swerving that is observed in the absence of the system.  
FIGS. 16a, 16b, and 16c show the actual and desired  
cornering forces of the front axle, rear axle, and the yaw  
moment of the vehicle. FIGS. 17a, 17b, 17c, and 17d show  
the actual and desired vertical loads  $Z_p$  on the four tires.  
FIGS. 18a, 18b, 18c, and 18d show the actual and desired  
lateral cornering forces  $Y_p$  on the four tires.



***Response to Arguments***

10. Applicant's arguments filed 1/22/2008 have been fully considered. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

**11. Any inquiry concerning this communication or earlier communications from the examiner should be:**

directed to: Hugh Jones telephone number (571) 272-3781,

Monday-Thursday 0830 to 0700 ET,

***or***

the examiner's supervisor, Kamini Shah, telephone number (571) 272-2279.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, telephone number (703) 305-3900.

**mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 308-9051 (for formal communications intended for entry)

***or*** (703) 308-1396 (for informal or draft communications, please label *PROPOSED* or *DRAFT*).

/Hugh Jones/

Primary Examiner, Art Unit 2128

March 17, 2008

